

San Francisco Bay Area Regional Priority Projects and Programs Attachment 15 – Reduce Delta Water Dependence

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IRWM Plan Commitment towards Reducing Delta Water Dependence

The Bay Area is highly dependent upon the Delta and its tributaries for its surface water supplies. About 70 percent of region's urban water supply is derived from these Delta and major tributary (Tuolumne and Mokelumne) sources.

About half of that surface water is withdrawn from the statutory delta (State Water Project, Federal Central Valley Project, and other USBR federal facilities), with the balance coming from upstream of the Delta from the Tuolumne River (SFPUC and its contractors) and the Mokelumne River (EBMUD) (Table 1).

Table 1: Sources of Imported Surface Water in the San Francisco Hydrologic Region

Water Conveyance Facility	Water Source	Operator	Counties Served	Water Supplied to the Bay Region via facility in 2005
San Felipe Unit of CVP	Delta via San Luis Reservoir	USBR (CVP)	Santa Clara and San Benito Counties	35.6 TAF (4%)
North Bay Aqueduct – SWP	Northern Delta	DWR (SWP)	Solano and Napa Counties	40.2 TAF (5%)
Contra Costa Canal	Western Delta	CCWD (CVP)	Contra Costa County	59.0 TAF (7%)
South Bay Aqueduct – SWP	Delta	DWR (SWP)	Alameda and Santa Clara Counties	131.8 TAF (16%)
Sonoma and Petaluma Aqueducts	Russian River	SCWA	Sonoma and Marin Counties	30.8 TAF (4%)
Putah South Canal	Lake Berryessa	USBR	Solano County	44.1 TAF (5%)
Mokelumne Aqueduct	Mokelumne River	EBMUD	Alameda and Contra Costa Counties	200.6 TAF (25%)
Hetch Hetchy Aqueduct	Tuolumne River	SFPUC	San Francisco, San Mateo, Alameda and Santa Clara Counties	267.3 TAF (33%)
Total				809.4 TAF

The Bay Area Integrated Regional Water Management Plan is founded on the principle of “Sustainable Water Resources Management” which includes protecting the resources of the Bay-Delta, diversifying the

portfolio of water resources for the region, and reducing the vulnerability of the region's water resources infrastructure, much of which is located in the Delta.

The Plan reflects the Bay Area's commitment toward reducing the Region's dependence upon the Delta for its water supply in the following ways:

- The IRWM Plan identifies its first "Common Bay Area Water Resources Management Interest" as "Protecting the Bay-Delta Watershed"
- Its Vision, Goals and Objectives support sustainable water resources management
- The Plan's Water Management Strategies include a wide variety of strategies which are designed to diversify the Region's portfolio of water supply options, in addition to supplies from the Bay and its tributaries (conservation, recycling, groundwater, desalination, etc). The strategies also address reducing infrastructure vulnerability through "Interties, infrastructure reliability, and groundwater banking."
- The majority of projects within the IRWM Plan are aligned with the water management strategies above which reduce the Region's dependence upon the Delta for water supply. These projects will be identified in the IRWM Plan Excerpts below.
- This Proposal contains a suite of projects which address the Plan and Region's commitment to reducing Delta Water Dependence, including Regional Water Conservation (most of the agency participants derive significant current water supplies from the Delta directly or from one of its main tributaries) and Regional Recycled Water (again, most of the agency participants derive current water supplies from the Delta or one of its main tributaries). The balance of this proposal ties into the related objective of protecting the Bay-Delta Watershed through the Wetlands Ecosystem Restoration Program, the Regional Green Infrastructure Capacity Building Program, and the Integrated Water Quality Improvement, Flood Management and Ecosystem Restoration in Bay Area Disadvantaged Communities (DAC) Program.

Protecting the Bay-Delta Watershed is a Common Bay Area Water Resources Management Interest

Early in the visioning process for the Bay Area IRWMP, the Regional Water Management Group assembled a list of "Common Bay Area Water Resources Management Interests". Those common interests helped the Group translate its vision into tangible goals and specific objectives that were applicable to the functional areas—Water Supply and Quality, Wastewater and Recycled Water, Flood Protection and Stormwater, and Watershed Management, Habitat Protection and Restoration--represented by the key stakeholders who initially combined to prepare the Plan. Protecting the Bay-Delta Watershed was listed as the first interest in that exercise, and the formulation of the goals and objectives were certainly shaped by the clarity of that common interest. See Section C. Objectives, in the Bay Area IRWMP, Page ES-12.

Bay Area Plan Objectives Support Reduced Delta Water Dependence

The Vision for the Bay Area IRWMP is "Working together to enhance sustainable water resources management to support a high quality of life in the Bay Area." Sustainable Water Resources management is translated in the Plan through the goals and objectives in terms of environmental sustainability, watershed protection, water supply reliability, diversifying the water supply portfolio, and habitat protection. The key goals and objectives that relate to Reducing Delta Water Dependence are listed in Table 2 (from the Bay Area IRWMP, Table ES-2 – Bay Area Regional Goals and Objectives (bolded for emphasis):

Table 2: Key Goals and Objectives in the IRWMP that relate to Reducing Delta Water Dependence

Regional Goal	Objectives (selected for Supply Relevance)
Contribute to the promotion of economic, social and environmental sustainability	<ul style="list-style-type: none"> • Maintaining and promoting economic and environmental sustainability through sound water resources management practices
Contribute to Improved Supply Reliability	<ul style="list-style-type: none"> • Minimizing vulnerability of infrastructure to catastrophes and security breaches • Increasing opportunities for recycled water use consistent with health and safety • Maintaining a diverse portfolio of water supplies to maximize flexibility
Contribute to the creation, protection, enhancement, and maintenance of environmental resources and habitats	<ul style="list-style-type: none"> • Providing net benefits to the environment • Conserving and restoring habitat for species protection • Protecting and recovering fisheries (natural habitat and harvesting)

Special attention is directed to the final goal related to environmental resource and habitat protection and its related objectives of habitat, species protection and fisheries. To accomplish such goals and objectives in the Bay Delta environment includes reducing dependence on Delta Water Supplies. To the extent that water supply operations as they have been conducted historically have adversely affected fisheries and as flexibility and diversity is built into water supply operations in the Delta and upstream tributaries, environmental resource objectives can more easily be met.

Water Management Strategies Leading to Diversification of Water Supply

Section D of the Bay Area IRWMP Executive Summary, addresses the water management strategies considered in the Plan and how they relate to the Regional Goals. The Strategies are grouped by those required by Proposition 50, those mentioned in Proposition 50, and additional strategies adopted by the Bay Area Regional Water Management Group. They are listed in Table ES-3 in the IRWMP. The strategies that most closely align with diversification of the Region's Water Supply away from over-reliance on the Delta and upstream supplies are as follows:

- Water conservation
- Water recycling
- Conjunctive Use
- Desalination
- Water transfers
- Groundwater Banking
- Interties, and
- Infrastructure reliability

Projects within the Bay Area Integrated Regional Water Management Plan Which Reduce Delta Water Dependence

There are currently 12 projects (including 3 regional projects in this Proposal) in the Bay Area IRWMP which reduce Delta water dependence; this is approximately 10% of all the projects included in the IRWMP. Three of the regional projects are listed in Table 3. The remaining 10 projects are listed in **Table 4**.

Proposal Projects that Reduce Delta Water Dependence

This proposal contains numerous projects which will positively impact the Bay-Delta watershed; several projects are notable in terms of reducing reliance on Delta Water supplies. Those projects are listed in Table 3:

Table 3: Projects in the Proposal that Reduce Delta Water Dependence

Proposal Project No.	Project Name	How Project will reduce reliance on Delta Water Supplies
1	Regional Recycled Water Program	The program will contribute to attainment of the Water Supply Reliability objectives of the CALFED Bay-Delta Program. The potable water offset of 3,210 AFY from the program will help reduce diversions from the Bay-Delta and upstream of the Bay-Delta, and reduce the mismatch between Delta water supplies, and current and projected beneficial uses for the Bay-Delta ecosystem.
2	Regional Water Conservation Program	The program will contribute to attainment of the Water Supply Reliability objectives of the CALFED Bay-Delta Program. The water savings from the program will help reduce diversions from the Bay-Delta and upstream of the Bay-Delta. The technologies promoted in this program are well-proven in terms of water use efficiency, and will collectively lead to a reduction in potable demand of 2,500 AFY.
3	Regional Green Infrastructure Capacity Building Program	The program will contribute to attainment of the Water Supply Reliability objectives of the CALFED Bay-Delta Program. The Napa Valley Rainwater Harvesting Project in the program will offset potable water demand for irrigation with rainwater for a total water savings of 74 AF throughout project life, thereby contributing to the overall demand and diversions from the Bay-Delta.

Assurances That Plan Revisions Will Continue to Reduce Delta Water Supply Dependence

Even as the Bay Area IRWM Plan is planned for updating this year, reduction in Delta Water Supply Dependence will remain a cornerstone of the Plan. Evidence of this is the list of regional programs in the current proposal, listed above, which have this “Reduction in Delta Water Supply” focus. The vision of the Bay Area IRWM Plan continues to be centered on “Sustainable Water Resources Management”. Though the Bay Area Coordinating Committee, which is responsible for the updating of the IRWMP in the Bay Area, will certainly verify that the Plan Goals and Objectives continue to align with this vision, the group remains committed to goals and objectives which improve water supply quality, reliability and diversity. Evidence of the Region’s continued reliance on this direction was provided by the group’s submittal of the Region Acceptance Process (RAP) and the Proposition 84 Planning Grant Application.

The RAP identifies the growing uncertainty of deliveries from the Delta due to pumping restrictions imposed as a threat to baseline supplies for the Bay Area region and reiterates the need for regional efforts among Bay Area agencies to capitalize on collective resources, expertise, and knowledge in order to achieve water quality and supply reliability goals ([Chapter 6 Region Boundary, Page 6-51](#)). This Proposal is developed on the premise of regional projects, and the Plan update will continue to include regional efforts as an effective way to reduce Delta Water Supply Dependence.

The Planning Grant Application to update the Bay Area IRWM Plan will include regional objectives that contribute towards the CALFED Bay-Delta Objective of Water Supply Reliability. Project review and prioritization criteria to be developed in the Plan update will provide for long-term drought preparedness, promote water use efficiency and water reuse, which will ensure that projects that will lead to reduced Delta Water Supply dependence are prioritized highly in the Plan update.

Bay Area IRWMP Excerpts Demonstrating Commitment to Reduce Dependence on Delta Water

Table 4 presents excerpts from the Bay Area Integrated Regional Water Management Plan which demonstrate a commitment to reducing reliance on Delta water, and the related, indirect issues of preserving and enhancing Bay-Delta water quality and habitats (which are in part stressed due to the way the Delta and its water resources are managed). The text in the excerpts is **bolded** to bring emphasis to certain clauses, and the *text in italics is added by the authors of this application document to provide context and clarification*.

Table 4: Excerpts from the Bay Area IRWMP that Demonstrate a Commitment to Reducing Reliance on Delta Supplies

Page	Section	Excerpt
C-3	C.2.1 Water Supply Challenges	<p>Threats to Baseline Supplies</p> <p>Protecting existing baseline supplies is of critical importance for ensuring reliable water supplies for the Bay Area. A variety of external constraints threaten to reduce or eliminate these supplies in the future.</p> <ul style="list-style-type: none"> • <i>Delta supplies are threatened by regulatory constraints on Delta exports, risk of catastrophic failure, and local facilities operations</i> (e.g., fish flows, temperature requirements, diversions, dam safety).
C-13	Table C-1 Relationship between Common Interests and Regional Goals	<p>Common Interest: Protecting the Bay-Delta Watershed</p> <p>Goals:</p> <ul style="list-style-type: none"> • Protect and improve hydrologic function • Protect and enhance environmental resources and habitat • Protect and improve quality of water resources • Promote economic, social, and environmental sustainability
D-7	D.3.3 Water Supply Reliability	<p>Strategies that contribute to improved water supply reliability, a stated goal of the CALFED Bay-Delta Program, the Integrated Regional Water Management grant program, and this IRWMP, are of important consideration given the various challenges faced by the Bay Area, such as the following:</p> <p>Threats to baseline supplies. A variety of external constraints threaten to reduce or eliminate existing baseline supplies, currently used in the Bay Area. These threats include, but are not limited to, regulatory constraints on Delta exports, reductions in local surface water storage capacity due to seismic activity and sedimentation, and potential pollution or overdraft of groundwater supplies. Protecting existing water supplies is a resource-intensive process that requires large investments from the Federal and state governments, in addition to local agencies in the Bay Area.</p>
D-24	D.3.14 Imported Water	<p>Most of the Bay Area water agencies rely upon imported water from the Delta or Sierra Nevada (<i>upstream of statutory Delta</i>) to meet demands. Because imported water constitutes such a critical component of the agencies' baseline supplies, significant resources are invested to protect and ensure the continued delivery and viability of imported supplies. Bay Area agencies are active proponents of the CALFED Bay-Delta Program and continue to support and participate in program implementation to address CALFED and statewide priorities.</p>
L-2	L.2 Reduce Conflict between Water Users	<p><u>Balancing Delta Water Supply Allocations with Beneficial Uses</u></p> <p>The Delta provides drinking water to over two-thirds of California, and irrigation water for more than 7 million acres of the most productive agricultural land in the world. Several water agencies within this region (e.g. ACWD, CCWD, City of Napa, SCVWD, Solano CWA, and Zone 7) rely upon Delta water supplies. Projects that reduce demands on the Delta also reduce conflicts from competing uses by leaving additional water in the Delta for environmental and other purposes.</p>

		<p>A number of the Bay Area IRWMP Cohort 1 projects will reduce demands on the Delta by reducing overall water demands (e.g. conservation projects) or developing other water supply sources to offset use of Delta supplies (e.g. recycled water projects).</p> <p>Bay Area IRWMP near-term priority projects that promote balancing Delta water supply allocations with beneficial uses include the following:</p> <ul style="list-style-type: none"> • Antioch Recycled Water Implementation (DDSD). This project will reduce statewide conflicts by reducing the City of Antioch's overall dependence on Delta water supplies by 531 AFY. The project will also reduce regional conflicts with CCWD because it was developed as part of an agreement to resolve a duplication of services issue between DDSD and CCWD. • Bay Area Regional Water Conservation Program (SCVWD). By promoting long-term ongoing regional conservation initiatives, this project will reduce water demands, thereby reducing statewide conflicts over Delta water supply and over other Bay Area water supplies faced with competing uses. • Benicia Water Reuse Project (City of Benicia). By increasing recycled water production and use, this project will reduce the City of Benicia's overall dependence on the Delta by 2,242 AFY, thereby reducing statewide conflicts over Delta water supplies. • Canal Encasement Phases II and III (CCWD). This project will reduce a statewide water rights conflict because it provides mitigation, as required by the CALFED ROD and SWRCB D-1641 for adverse water quality impacts caused by construction of SDIP facilities. Additionally, by improving water quality at the Delta Water Quality Monitoring site at Pumping Plant 1, the risk of impact to the CVP and SWP is reduced, reducing conflict with other users of CVP and SWP water. This project will also reduce system losses and lower demand on the Delta helping to reduce statewide conflict over Delta water supplies. Finally, it reduces regional conflict by mitigating water quality impacts caused by the application of local wastewater effluent adjacent to the unlined canal and the implementation of the Dutch Slough restoration project. • Ironhouse Sanitary District Wastewater Conveyance to San Francisco Region (Ironhouse Sanitary District). This project would eliminate the 2.7 mgd pond treatment/land application disposal system currently employed by ISD and would result in a discharge into New York Slough under a modified DDSD NPDES permit. By allowing ISD to reduce effluent irrigation on the mainland property adjacent to the Contra Costa Canal, a source of drinking water supply, this project would reduce regional conflict with CCWD. In addition, this project would reduce conflict with DDSD and the City of Brentwood by reducing conflict over wastewater effluent discharge expansion and eliminating the need for an new outfall. • Mirant Cooling Recycled Water Project (DDSD). This project would reduce statewide conflict over Delta water uses by increasing recycled water use. The Mirant Power Plant Plants currently use water from the Sacramento-San Joaquin Delta for their cooling processes. This project would replace some or all of the Delta drawn water with recycled water for industrial cooling and other process uses. • PG&E Contra Costa Power Plant #8 Recycled Cooling Water (DDSD). This project will reduce statewide conflicts over Delta water supplies by exploring options to increase recycled water production to supply cooling water to Contra Costa Power Plant No. 8. • Pittsburg Recycled Water Implementation (DDSD). This project will reduce statewide conflicts by reducing the City of Pittsburg's overall dependence on Delta water supplies by 615 AFY. The project will also reduce regional
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		<p>conflicts with CCWD because it was developed as part of an agreement to resolve a duplication of services issue between DDS and CCWD.</p> <ul style="list-style-type: none">• San Ramon Valley Recycled Water Program - Phase 2 and Future Phases (DSRSD-EBMUD Recycled Water Authority). Ultimately, this program will provide 6,400 AFY (including 780 AFY from Phase 2) of recycled water supply to offset use of potable Delta and Sierra water supplies for irrigation. This will reduce statewide conflicts by reducing Delta diversions and will reduce regional conflicts between Mokelumne River users.• SBWR Recycled Water Phase 2 Extensions--Santa Clara (City of San Jose). This project will reduce conflict over Delta water supplies by adding approximately 10 miles of pipeline to increase recycled water deliveries by up to 1,000 AFY, offsetting potable supply.
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